

# Seattle Fire Department

## Permit Conditions

**4911** 1-3 Units

**4912** 4+ Units

Site Address: \_\_\_\_\_

Inspector: \_\_\_\_\_

### Land-based Hot Work

#### NOTICE-NOTICE-NOTICE

A validation number must be obtained from the Fire Prevention Division Office prior to conducting any hot work in the City at a location other than the specific site noted on this permit. Validation numbers will be valid for a period not to exceed 20 days. If offsite hot work activities will exceed 20 days, a separate temporary permit is required for the site. A copy of this annual permit and the validation number shall be located at the offsite location prior to commencement of any cutting and welding. Contact the Fire Prevention Division Office at [permits@seattle.gov](mailto:permits@seattle.gov) or 206-386-1450 to obtain a validation number.

#### NOTICE

**This permit shall be kept on the premises designated herein at all times and shall be readily available for inspection by the fire code official. (SFC 105.3.5)**

1. Management shall designate a facility employee to be the "responsible person" who shall be responsible for overseeing the onsite hot workers to ensure that required hot work safety measures are taken to prevent fires and fire spread. (SFC 3503.3, Chapter 2 – "Definitions")
2. The "responsible person" shall be trained in the safety and fire safety considerations concerned with hot work. (SFC 3503.4, Chapter 2- "Definitions")
3. Where the hot work area is accessible to persons other than the operator of the hot work equipment, conspicuous signs shall be posted to warn others before they enter the hot work area. Such signs shall display the following warning: (SFC 3503.6)

#### **CAUTION HOT WORK IN PROGRESS STAY CLEAR**

4. Hot work areas shall not contain combustibles or shall be provided with appropriate shielding to prevent sparks, slag or heat from igniting exposed combustibles. (SFC 3504.1.1)
5. Openings or cracks in walls, floors, ducts or shafts within the hot work area shall be tightly covered. (SFC 3504.1.2)
6. Floors shall be kept clean within the hot work area. (SFC 3504.1.3)
7. Partitions segregating hot work areas from other areas of the building shall be noncombustible. Partitions shall prevent the passage of sparks, slag, and heat from the hot work area. (SFC 3504.1.5)

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8. Hot work shall not be performed on containers or equipment that contains or has contained flammable liquids, gases or solids until the containers and equipment have been thoroughly cleaned, inerted or purged;  
**Exception:** "hot tapping" shall be allowed on tanks and pipe lines when such work is to be conducted by qualified personnel. (SFC 3504.1.7)
9. A **fire watch** shall be provided during hot work activities and shall continue for a minimum of **30 minutes** after the conclusion of the work. The fire code official or the "responsible person" is authorized to extend the fire watch based on the hazards or work being performed.  
**Exception:** Where the hot work area has no fire hazards or combustible exposures. (SFC 3504.2.1)
10. The fire watch shall include the entire hot work area. Vertical or horizontal fire exposures that are not observable by a single individual shall have additional personnel assigned to fire watches to ensure that exposed areas are monitored. (SFC 3504.2.2)
11. Individuals designated to fire watch duty shall have fire-extinguishing equipment readily available and shall be trained in the use of such equipment. Individuals assigned to fire watch duty shall be responsible for extinguishing spot fires and communicating an alarm. (SFC 3504.2.3)
12. The individuals responsible for performing the hot work and individuals responsible for providing the fire watch shall be trained in the use of portable fire extinguishers. (SFC 3504.2.4)
13. Where hoselines are required, they shall be connected, charged and ready for operation. (SFC 3504.2.5)
14. A minimum of one fire extinguisher with a minimum 2-A: 20-B:C rating shall be provided with *ready access* within 30 feet of the location where hot work is performed. (SFC 3504.2.6)
15. At least once a day, and before hot work is permitted, a pre-hot-work check shall be conducted by the responsible person to ensure that all equipment is safe and hazards are recognized and protected. A report of the check shall be kept at the work site during the work and available upon request. (SFC 3504.3)
16. The pre-hot-work check shall determine all of the following:
  1. Hot work equipment to be used shall be in satisfactory operating condition and in good repair.
  2. Hot work site is clear of combustibles or combustibles are protected.
  3. Exposed construction is of noncombustible materials or, if combustible, then protected.
  4. Openings are protected.
  5. Floors are kept clean.
  6. No exposed combustibles are located on the opposite side of partitions, walls, ceilings or floors.
  7. Fire watches, where required, are assigned.
  8. *Approved* actions have been taken to prevent accidental activation of suppression and detection equipment in accordance with Sections 3504.1.8 and 3504.1.9.
  9. Fire extinguishers and fire hoses (where provided) are operable and available. (SFC 3504.3.1)
17. Devices or attachments mixing air or oxygen with combustible gases prior to consumption, except at the burner or in a standard torch or blow pipe, shall not be allowed unless approved. (SFC 3505.1)

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18. The storage or use of a single cylinder of oxygen and a single cylinder of fuel gas located on a cart shall be allowed without requiring the cylinders to be separated when the cylinders are connected to regulators, ready for service, and equipped with apparatus designed for cutting or welding. (SFC 3505.2.1)
19. Individual carts shall be separated from each other in accordance with Section 5003.9.8. (SFC 3505.2.1.1)
20. Incompatible materials in storage, and storage of materials that are incompatible with materials in use, shall be separated when the stored materials are in containers having a capacity of more than 5 pounds or ½ gallon or any amount of *compressed gases*. Separation shall be accomplished by:
1. Segregating *incompatible materials* in storage by a distance of not less than 20 feet.
  2. Isolating *incompatible materials* in storage by a noncombustible partition, extending not less than 18 inches above and to the sides of the stored material.
  3. Storing liquid and solid materials in hazardous material storage cabinets.
  4. Storing *compressed gases* in gas cabinets or exhausted enclosures in accordance with Sections 5003.8.5 and 5003.8.6.
- Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure. (SFC 5003.9.8)
21. Cylinders, valves, regulator, hose and other apparatus and fittings for oxygen shall be kept free from oil or grease. Oxygen cylinders, apparatus and fittings shall not be handled with oily hands, oily gloves, or greasy tools or equipment. (SFC 3505.3)
22. Oxygen and fuel gas used for hot work shall be limited inside buildings in accordance with the following:

Type of Gas	Maximum Aggregate Quantity	SFC References
Acetylene and other nonliquefied fuel gases	1,000 cu. feet in unsprinklered buildings 2,000 cu. feet in sprinklered buildings	Table 5003.1.1(1)
LPG and other liquefied fuel gases	735 lbs. water capacity (300 lbs. LPG) [72 lbs water capacity (30 lbs LPG) within the Fire District]	6109.10
Compressed oxygen	1,500 cu. feet in unsprinklered buildings 3,000 cu. feet in sprinklered buildings	Table 5003.1.1(1)
Cryogenic Oxidizer Liquid oxygen (LOX)	45 gallons in unsprinklered buildings 90 gallons in sprinklered buildings	Table 5003.1.1(1)

23. Smoking and open flames are prohibited in flammable and combustible liquid storage tank areas in accordance with Section 5003.7.  
**Exception:** Areas designated as smoking and hot work areas, and areas where hot work permits have been issued in accordance with this code. (SFC 5704.2.4)
24. In bulk plants or terminals where flammable and combustible liquids are received by tank vessels, pipelines, tank cars or tank vehicles; Class I, II or IIIA liquids shall not be used, drawn or dispensed where flammable vapors can reach a source of ignition. Smoking shall be prohibited except in designated locations. "No

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Smoking” signs complying with Section 310 shall be conspicuously posted where a hazard from flammable vapors is normally present. (SFC 5706.4.8)

25. Marine chemist's certificates where required, shall be posted in a conspicuous location and maintained current. (SFC 105.3)
26. Flammable and combustible liquid storage and dispensing shall be separated from hot work operations by a minimum of 50 feet. (SFC 105.3)

#### **ELECTRIC ARC HOT WORK**

1. The frame or case of electric hot work machines, except internal-combustion-engine-driven machines, shall be adequately grounded. (SFC 3506.1)
2. Welding return currents from the work to the machine shall have proper electric contact at joints. The electric contact shall be periodically inspected. (SFC 3506.2)
3. Electrodes (i.e. welding rods) shall be removed from the holders when electric arc hot work is discontinued for any period of 1 hour or more. The holders shall be located to prevent accidental contact and the machines shall be disconnected from the power source. (SFC 3506.3)
4. A switch or circuit breaker shall be provided so that fixed electric welders and control equipment can be disconnected from the supply circuit. The switch or circuit breaker shall be marked EMERGENCY DISCONNECT and shall be visible from the equipment. (SFC 3506.4)
5. Damaged cables shall be removed from service until they have been properly repaired or replaced. (SFC 3506.5)

#### **CALCIUM CARBIDE SYSTEMS**

1. Storage and handling of calcium carbide shall comply with SFC Chapter 50 and Chapter 9 of NFPA 51. (SFC 3507.1)

#### **ACETYLENE GENERATORS**

1. Use of acetylene generators shall comply with Chapter 15 of NFPA 55. (SFC 3508.1)
2. The minimum volume of rooms containing portable generators shall be 35 times the total gas generating capacity per charge of all generators in the room. The gas-generating capacity, in cubic feet per charge, shall be assumed to be 4.5 times the weight of carbide, per charge, in pounds. The minimum ceiling height of rooms containing generators shall be 10 feet. An Acetylene generator shall not be moved by derrick, crane, hoist, etc...while charged. (SFC 3508.2)
3. Generators shall be located where water will not freeze. Common salt (sodium chloride) shall not be used for protection against freezing. (SFC 3508.3)

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#### **PIPING MANIFOLDS AND HOSE SYSTEMS FOR FUEL GASES AND OXYGEN**

1. The use of piping manifolds and hose systems shall be in accordance with SFC Chapter 53, and Chapter 5 of NFPA 51. (SFC 3509.1)
2. Piping shall be protected against physical damage. (SFC 3509.2)
3. Signage shall be provided for piping and hose systems as follows:
  1. Above ground piping systems shall be marked in accordance with ASME A13.1
  2. Station outlets shall be marked to indicate their intended usage.
  3. Signs shall be posted, clearly indicating the location and identity of shutoff valves. (SFC 3509.3)
4. Oxygen manifolds shall not be located in an acetylene generator room and shall be located at least 20 feet from combustible material. (Oil, grease, flammable gases, etc...) unless the gas cylinders are separated by a *fire partition*. (SFC 3509.4)
5. Signs shall be posted for oxygen manifolds with service pressures not exceeding 200 psig and shall include the words: LOW PRESSURE MANIFOLD – DO NOT CONNECT HIGH PRESSURE CYLINDERS – MAXIMUM PRESSURE 250 PSIG (SFC 3509.5)